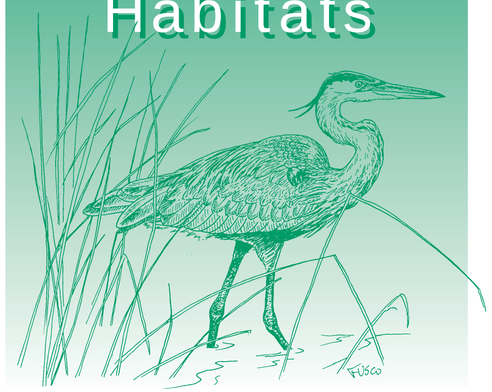
Restoring Long Island Sound's Habitats



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Restoration Sites

BOLDFACE INDICATES HIGH-RANKED SITES

Connecticut

Branford
Between Pleasant Pt & Juniper Pt (TW)
Branford Harbor (TW)
Branford River (TW)
Lower Branford River (TW)
Branford River tributary marsh (TW)
Farm River (TW)
Farm River tributary marsh (TW)
Flying Point/Prospect Hill Rd. (TW)
Lindsey Cove (TW)
Pages Cove north-Short Beach (TW)
Pages Cove-Killan's Point (TW)
Pine Orchard golf course (TW)
Sybil Creek (TW)
Three Elms Rd. (TW)
Tilcon Dock (TW)
Wards Millpond/Branford River Wildlife Management Area (RMC/FW)

Bridgeport
Ash Creek, near Mount Grove Cemetery (TW)
Black Rock Harbor (TW)
Bunnells Pond (RMC)
Grover Hill (TW)
Pleasure Beach (BD)
Yellow Mill Channel to Stillman Pond (RMC)

Chester
Carini Preserve (RMC)

Clinton
Chapman's Pond Dam (RMC)
Clinton Harbor (SAV/SR/TW)
Hammock River (TW)
Hammonasset River tributary (TW)
Indian River (TW)
Indian River south of railroad track (TW)

Darien
Gorhams Pond (EE)
Holly Pond (RMC)
Noroton River at I-95 (RMC)
North Scott Cove-Arrowhead Way (TW)

Derby
Derby Dam on Housatonic (RMC)
Dredge mining sites (RMC)

East Haddam
Chapman Pond (TW)
Salmon River (RMC)

East Haven
Caroline Creek, Minor & Stanton Rds. (TW)
Morris Creek, Sibley Lane (TW)
New Haven Airport (TW)

East Lyme
Brides Brook Culvert (RMC)
Crescent Park and Indian Pond (TW)
Manwaring Road (TW)
National Guard camp (TW)
Niantic River (SAV)
Old Black Point Spit (BD/F)
Upper Pattagansett River (TW)

East Windsor
Scantic River (RMC)

Enfield
Scantic River (RMC)

Essex
Great Meadows (TW)
Thatched Island (TW)

Fairfield
Ash Creek, near Mount Grove Cemetery (TW)
Lower Ash Creek (TW)
W. of Marina/Ash Creek mth - Turney R (TW)
Between Fenfield & Beach Roads (FW)
Horse Tavern Creek (TW)
Mill River - Tide Mill Dam (RMC)
Mill River-Samp Mortar Lake Dam (RMC)
Perrus Millpond (TW)
Pine Creek East (TW)
Sasco Brook (TW)
Sasco Brook Dam (RMC)
Sasco Hill Beach (SAV)
South Benson Marina (TW)
South Pine Creek - Par 3 golf course (TW)

Greenwich
Byram Harbor (SR)
Greenwich Cove Dr. (TW)
Greenwich Point Park (TW)
Mead Point Drive (TW)

Groton
Birch Plain Creek (TW)
Bluff Point (F)
Bluff Point Coastal Reserve (TW)
Bluff/Bushy Point Beach (BD)
Mumford Cove (BD)
Spencer Point (TW)
Willow Point (TW)

Guilford
Faulkner's Island (CB)
Grass Island (TW)
Guilford Point, mouth of East River (TW)
Landon Dam (RMC)
Leetes Island (TW)
Lost Lake (TW)
Lower Guilford Lake (RMC)
Old Quarry Rd./Hoadley Neck (TW)
Sluice Creek (TW)
Upper West River (TW)
Vineyard Haven (TW)

Haddam
Higganum Creek (RMC)
Salmon River (RMC)

Hamden
Quinnipiac River Marsh (TW)
West bank of Mill River (RMC/FW)

Ledyard
Poquetanuck Cove (EE)

Lyme
Ed Bills Pond Dam (RMC)
Hamburg Cove (SAV)
Lord Cove (TW)
Nott Island (TW)

Madison
Beach and Pleasant View Aves. (TW)
East River (TW)
End of Garnet Park Road (TW)
Fence Creek (TW)
Fence Creek Coastal Barrier (TW/BD)
Golf course/ Surf Club Road (TW)
Hammonasset River (TW)
Hammonasset State Park (TW)
Neck River tributary (TW)
Windy Brook Lane (TW)
Windy Brook Lane/E. of golf course (TW)

Meriden
Hanover Pond Dam (RMC)

Middletown
Starr Millpond-Coginchaug River (RMC)

Milford
Bayview area, Welches Point Rd. (TW)
Beaver Brook (TW/FW)
Calf Pen Meadow School (TW)
Calf Pen River and East Ave. (TW)
Charles Island (F)
Dredge mining sites (RMC)
East of Great Flat (TW)
Fowler Island (TW)
Great Creek Marsh (TW)
Great Flat (TW)
Hilldale Road area (TW)
Howard Ct./Morehouse Ave. (TW)
Indian River /between I-95 & railroad track (TW)
Oyster River (TW)
Reef Rd, Milford Harbor Tributary (TW)
Seabreeze Ave. and Millard Dr. (TW)
West of sand and gravel company (TW)
West side of Gulf Pond (TW)
Wheeler Marsh (TW)

Montville
Trading Cove (EE)
Trading Cove Brook (RMC)

New Canaan
New Canaan Nature Center (FW)

New Haven
Hemingway Creek (TW)
Long Wharf Flats (IF)
Mill River, north of I-91 (RMC/FW)
E. bank of Mill River,
S. of railroad tracks (TW)
West bank of Mill River (RMC/FW)
Morris Creek (TW)
Nathan Hale Park (CB)
New Haven Airport (TW)
Quinnipiac River Marsh (TW)
West River (TW/RMC)

New London
Mitchell College (BD)

North Haven
Quinnipiac River (TW)

Norwalk
Chimon Island (F)
Flock Process Dam (RMC)
Harborview (TW)
Indian River (RMC)
NE. Wilson Cove (TW)
Norwalk Harbor (TW)
Upper Norwalk Harbor (RMC)
Norwalk River-Perry Ave. flood gate (RMC)
Sheffield Island (BD)
Sheffield/Plains/Shea Island Complex (F)
Village Creek (RMC/TW)

Norwich
Trading Cove (EE)

Old Lyme
Big Pond (TW)
Black Hall River (TW)
Calves Island (TW)
Connecticut River (RMC)
Duck River (TW)
Goose Island (TW)
Great Island (TW)
North section of Great Island area (TW)
Griswold Point (BD)
Lieutenant River (TW)
Lord Cove (TW)
Pond Road/Soundview (TW)
Saltworks Point (TW)
Upper Mill Pond Dam (RMC)
W. Hawks Nest Beach/end Brighton (TW)
White Sands Beach, east (TW)
White Sands Beach, west (TW)

Old Saybrook
Beamon Creek (TW)
Cold Spring Brook-Chalker Beach (TW)
Connecticut River (RMC)
Fenwick (TW)
Ferry Rd./CT River (TW)
Hagar Creek (TW)
Knollwood, east (TW)
Lynde Point (BD)
North Cove (TW)
Otter Cove (TW)
Ragged Rock Creek (TW)
South Cove (EE)
South Cove, north section (TW)

Orange
Dredge mining sites (RMC)

Preston
Poquetanuck Cove (EE/F/GL)

Seymour
Kinneytown Dam (RMC)

Shelton
Derby Dam on Housatonic (RMC)
Dredge mining sites (RMC)
Farmill River (TW)
Sprague
Versailles Pond (RMC)

Stamford
Holly Pond (RMC)
Kosciuszco Park (TW/IF)
Magee Ave near Stamford Mar. Center (TW)
Noroton River at I-95 (RMC)

Stonington
Collins Rd-Lords Point (TW)
Quiambog Cove (TW)
Ram Island (F)
Stony Brook, S. of Flanders Point (TW)
West of Edwards Point (TW)

Stratford
Bridgeport Airport (TW)
Carting/Peacock/Long/Pope Islands (TW)
E Johnson Creek/N. Lewis Gut Mouth (TW)
Farmill River (TW)
Ferry Creek (TW)
Fourth Ave. Pond (TW)
Long Beach (BD)
North of Frash Pond and baseball field (TW)
Peck's Mill Pond (FW)
Russian/Lordship beach (BD)
Sikorsky marsh & S. of Rte.15 bridge (TW)
W. Great Meadows/N. Lordship Bl. (TW)
W. Great Meadows/S. Lordship Bl. (TW)

Wallingford
Community Lake (RMC)
Wallace Dam/Community Lk/Q River (RMC)
Wharton Brook S.P. (F/GL)

Waterford
Alewife Cove (EE/SAV)
East of Niantic River spit (TW)
Eastern tip Harkness Memorial S.P. (TW)
Goshen Cove (EE)
Millstone Point, west side (FW)
Niantic River (SAV)
North of Quaker Hill (TW)
West of Jordan Cove & residential area (TW)
White Point (TW)

West Haven
Cove River (TW)
Old Field Creek (TW)
Oyster River, North of New Haven Ave. (TW)
Oyster River, Paul Braun Ct. (TW)
W.H. STP (TW)
West bank of lower West River (TW)
West River (TW/RMC)

Westbrook
Chapman's Pond Dam (RMC)
Hammock River (TW)
Menunketesuck Island (BD)
Menunketesuck River (TW)
Middle Beach (TW)
Patchogue River (TW)
Quotonset Beach (TW)
Westbrook town beach (BD)

Westport
Cockenoe Island (F)
Indian River (RMC)
Sasco Brook Dam (RMC)
Saugatuck River N of Route 1 (TW)
Sherwd ISP/New Crk/Gr Frm Brk (TW)
Sherwood Millpond (EE)
N. of Sherwood Millpond and I-95 (TW)
N. Sherwood Millpond (TW)
W. Sherwood Millpond (TW)

Windsor
Rainbow Dam (RMC)

New York

Bronx
Bronx Oyster Reefs (SR)
Bronx River mouth (TW/F/RMC)
Bronx River Trailway (TW/FW/F/RMC)
City Island Marsh (TW)
Eastchester Bay (TW)
Ferry Point Park (G/BD)
Ferry Point Park Shoreline (TW)
Hutchinson River - DOT property (TW)
Oak Point Freighytards (TW/IF/fisheries habitat)
Palmer Inlet (TW)
Pelham Bay Park Lagoon (TW/F)
Pugsley Creek (TW)
Rice Stadium Wetlands (TW/G/F)
Seton Falls Park (FW/F/CB)
Soundview Park (TW)
Turtle Cove (TW)
Weir Creek (TW)
Westchester Creek (TW)

Brookhaven
Aunt Amy's Creek (FW/TW)
Cedar Beach (BD)
Cedar Beach boat ramp, east side (BD/TW/IF)
Crystal Brook Inlet (TW/FW)
Former Old Man's Boatyard site (TW)
Hagerman Landing Road Groin (BD/CB/IF)
McAllister County Park (FW/BD/IF/WI/F)
Mount Sinai Harbor (TW/EE/IF)
North Shore Horse Showgrounds (TW/IF)
Pipe Stave Hollow - Chandler Estate Swale (TW/FW/CB/F/IF)
Port Jefferson Village Beaches (BD)
Satterly Landing (TW)
Setauket Mill Pond (FW/F/IF/TW)
Shoreham Plant Wetlands (TW/BD)
Shoreham Point (TW)
Stony Brook Creek & Pond (TW/FW)
Stony Brook Harbor (TW)
Unnamed Creek & Pond (FW)
Wading River (TW/F/FW/BD/IF)
Wading River Wetland #W7 (FW)
Wading River Wetland #W9 (FW)
West Meadow Beach (BD)
West Meadow Creek (TW/IF/EE)

Huntington
Betty Allen Nature Park (FW/TW)
Centerport Ponds (TW/FW/IF)
Cold Spring Harbor (TW/BD/F/CB/IF)
Cold Spring Ponds (Huntington Wetland #H-1) (TW/IF/FW)
Crab Meadow (TW/FW/BD/IF)
Fresh Pond (FW/F/BD)
Hecksher Park Pond (FW)
Lloyd Harbor Wetland #L17 (FW)
Mariner's Inn (TW/BD)
Tidal Basin on Lloyd Neck (TW/BD)
Twin Ponds Park (TW/FW)

Mamaroneck
Greacen Point (TW/IF)
Hommock Marsh (TW)

Mount Vernon
Glover Field (FW)

New Rochelle
Echo Bay (TW/SR/IF/RI)
Former Dickerman's Pond (FW)
Nature Study Woods (F/FW)
Pryer Manor Marsh (TW)

North Hempstead
Baxter Stage Pond (FW)
Hempstead Harbor (EE/IF/TW)
Lake Success (FW)
Leed's Pond (FW)
Manhassett Bay (EE/TW/IF)
Mitchell Creek (TW)
Mott's Cove (TW)
Sheets Creek (TW)
Whitney Pond Park (FW)

Oyster Bay
Bayville Wetland #B-7 (TW/FW)
Beaver Brook/Shu Swamp (FW)
Beaver Lake (FW)
Beekman Beach (BD/TW/IF/SAV)
Centre Island Beach (BD/TW)
Cold Spring Ponds (Huntington Wetland #H-1) (TW/IF/FW)
Glen Cove Creek (TW)
Hicksville Mill Pond (FW)
Hempstead Harbor (EE/IF/TW)
Huntington Wetlands #H2-H7 (FW)
Mill Pond (FW)
Oyster Bay Mill Pond (FW)
Oyster Bay NWR (TW)
Prospect Point to Sands Point Preserve (BD)
Red Spring Point Bluffs (CB)
Scudders Pond (FW)
Stehli Beach / Frost Creek Wetlands (TW/BD/IF)
West Pond (TW)

Pelham
Glover Field (TW)

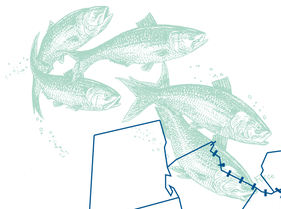
Queens
Alley Pond Park (FW/TW)
Aurora Pond (FW/F)
Bowery Bay (TW)
College Point Creek (TW)
College Point tidal creek (TW)
Crocheron Park (G)
Flushing Airport (FW/G/F)
Flushing Bay Timber Structures (fisheries habitat)
Flushing Bay/Flushing Creek (TW)
Flushing Meadow-Corona Park- Willow Lake (TW/FW/CB)
Forest Park Shrub Swamp (FW)
Fort Totten (TW/FW/CB/IF)
Hallets Cove (TW)
Kissena Park (G)
Powell's Cove Shoreline (TW/BD)
Steinway Creek Enhancement (TW)
Tallman Island (TW)
The Alley@Alley Pond Park (FW/F/TW/CB/IF)
Western College Point creeks (TW)

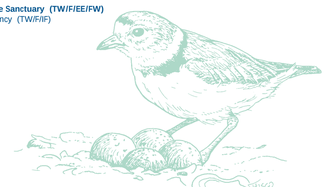
Riverhead
Baiting Hollow (TW/FW/RMC)
Mattituck Wetland #MT-1 (FW)
Shoreham Point (TW)
Wading River (TW/RMC/F/FW)
Wading River Wetland #W7 (FW)

Rye
Beaver Swamp Brook (FW)
Beaver Swamp Brook- Cowperwood site (FW)
Blind Brook (FW)
Edith G. Read Wildlife Sanctuary (TW/F/EE/FW)
Marshlands Conservancy (TW/F/IF)

Smithtown
Callahan's Beach (CB)
Fresh Pond (FW/F/BD)
Harrison Pond Town Park (FW/RMC/TW/F)
Landing Avenue Town Park (TW)
Long Beach (BD)
Nissequogue River - Riviera Dr., Kings Park (TW/F/W/RMC)
Nissequogue River - Village of Nissequogue (TW/F/W/RMC)
Schubert Beach (BD)
St. James Wetland #SJ16 (FW)
Stony Brook Harbor (TW/IF)
Sunken Meadow Creek (TW/BD/IF)
Sweetbriar Nature Center (G/TW/FW)
Young's Island (TW/IF)

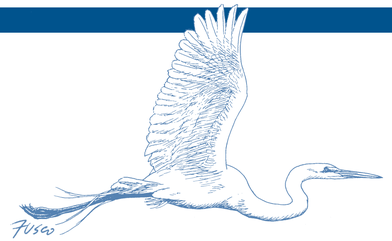
Southold
Baillie's Beach Park (BD/TW)
Clark's Beach/Inlet Pond (BD/CB)
Darby Cove (TW)
Goldsmith Inlet Beach (BD/TW/F/IF)
Great Pond (FW)
Greenport Wetland #GP11 (FW)
Mattituck Creek (TW/IF)
Mattituck Hills Wetlands #MH1& MH2 (FW)
Mattituck Wetland #MT20 (FW)
Orient Point Park (G/F/CB/RI)
Orient Wetland #O1 (FW)
Orient Wetland #O14 (FW)
Peconic Dunes Wetland Complex (FW)
Southold Wetland #SO28 (FW/F)
Southold Wetland #SO30 (FW/F0
Wolf Pit Lake (FW)





Types of Habitats

Tidal Wetlands (TW)
Freshwater Wetlands (FW)
Beaches and Dunes (BD)
Cliffs and Bluffs (CB)
Shellfish Reefs (SR)
Estuarine Embayments (EE)
Submerged Aquatic Vegetation (SAV)
Riverine Migratory Corridors (RMC)
Coastal and Island Forests (F)
Coastal Grasslands (G)
Rocky Intertidal (RI)
Intertidal Flats (IF)



Restoring Long Island Sound's Habitats

What Is Habitat And Why Is It Important?

A habitat is a place where plants and animals live. Some easily recognizable habitats in the Long Island Sound region include wetlands, eelgrass beds, and forests. These habitats and a wide variety of others provide nursery, breeding and feeding areas for fish and wildlife.

The Comprehensive Conservation and Management Plan (CCMP) for Long Island Sound describes the Sound's habitats as collectively representing a unique and highly productive ecosystem supporting a diverse array of living resources. These living resources range from microscopic plants and animals that drift with the currents, to economically important finfish, shellfish, and crustaceans. Other living resources such as birds, sea turtles, and marine mammals spend all or part of their lives in the Sound, on its shores, or in its watershed.

Healthy Long Island Sound habitats are important to the people of the region as well. Wetlands and dune systems provide flood and erosion control, freshwater wetlands and forests recharge groundwater, and eelgrass beds trap sediments and remove nitrogen from the water column.

What Is The Condition Of The Sound's Habitats?

While there is still much healthy habitat in and around Long Island Sound, there is little doubt that the overall abundance and diversity of habitats have been diminished by incompatible human uses of the Sound and its resources.

Present day habitat conditions are very different than those observed by the first colonists. One third of all tidal wetlands in the Sound have been lost since the 1700's. Most of the remaining tidal wetlands have been altered by mosquito ditching. Once plentiful, eelgrass beds disappeared from the western and central portions of the Sound in the 1930's and have not returned. Terrestrial habitats have been impacted by clearing and filling for development. In Connecticut, 70 percent of the state's original forested area had been clear cut by the late 1800's.

How Do Habitats Become Degraded?

Habitats become degraded either directly or indirectly as a result of human activity. The damage may be obvious, like filling in a wetland, or clearing a forest. In many cases, though, the damage is more difficult to trace, and we see signs of degradation with no obvious cause. The degradation may result from invisible chemical contamination; changes in water depth, clarity, or temperature; an invasion by a nonnative species; or changes in soil type.

What Is Habitat Restoration?

Habitat restoration means the return of a habitat to its pre-disturbance natural condition. The former plant and animal community must have been disturbed or degraded by human activities in order for the project to be a true restoration. Intervention to halt or reverse long term natural changes to a habitat is not a component of the Initiative.

Examples of restoration include the removal of invasive or nonnative plants from wetlands and forests, restoration of tidal flushing to marshes, or planting beach grass on trampled dunes.

Sometimes habitat restoration can mean restoring connections between two or more habitat areas which are important to fish and wildlife. These connections may have been severed by construction of a physical barrier like a dam or road which prevents animals from moving from one area of forest or river to another. By providing passage through or around these barriers, connections will be restored. For example, installing fish ladders at dams, will allow migratory fish to pass from the Sound to their freshwater spawning sites.

What Is The Long Island Sound Habitat Restoration Initiative Doing About Degraded Habitats?

As recommended in the CCMP, habitat restoration in Long Island Sound is being coordinated through the Long Island Sound Habitat Restoration Initiative. The Long Island Sound Habitat Restoration Initiative is a partnership of concerned agencies and organizations working together to improve the Sound for the living resources which depend on it. With funding from the EPA Long Island Sound Office, the Connecticut Department of Environmental Protection and the New York State Department of Environmental Conservation are taking lead responsibility for this effort. Each of the partners listed below are making significant contributions.

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- N.O.A.A. National Marine Fisheries Service
- Connecticut Department of Environmental Protection
- Connecticut Sea Grant
- New York State Department of Environmental Conservation
- New York State Department of State
- New York City Department of Environmental Protection
- New York Sea Grant
- New York City Dept. of Parks and Recreation
- Long Island Sound Study Citizens' Advisory Committee
- Save the Sound, Inc.

As part of the Initiative, the following information has been assembled:

- Priority habitats in need of restoration
- Specific restoration sites and priorities
- Sources of funds for restoration projects
- Technical information on restoration techniques

"A partnership of concerned agencies and organizations working together to improve the Sound for the living resources that depend on it."

What Are The Goals Of The Long Island Sound Habitat Restoration Initiative?

The Initiative has set forth three broad goals.

- Restore the ecological functions of degraded and lost habitats.
- Restore at least 2000 acres and 100 river miles of natural habitats over the next 10 years.
- Use partnerships to accomplish the restoration objectives and to leverage limited state, local, and federal funds.

The partners will undertake restoration activities in cooperation with local government agencies, not-for-profit groups and the citizens of the Long Island Sound watershed. Restoration projects will be undertaken on publicly-owned lands or those privately-held properties where owners wish to participate. The Initiative focuses on restoring habitats that have been altered by human activity and does not attempt to halt or reverse long term natural changes.

Does The Habitat Restoration Initiative Include Your Town?

The geographic boundary for restoration includes the immediate coastal zone and rivers containing migratory fish runs. A map of all the sites proposed for restoration and the project boundary appears on the reverse side of this page. In Connecticut, the boundary includes portions of the watershed using the limits of coastally influenced vegetation. In New York, the counties of Queens, Bronx and Westchester have identified limits as seen on the map. In Nassau and Suffolk counties, all of the Long Island Sound watershed is included. If you know of a site we have missed that falls within the project boundary, please inform us by completing the enclosed survey.

What Kinds Of Habitats Are Included?

Sites proposed for restoration fall in to twelve habitat types. All of these habitats are necessary to maintain fish and wildlife populations in and around Long Island Sound.

- **Tidal Wetlands (TW)** are the transitional zone between the land and aquatic systems. These areas are dominated by rooted plants which are covered by water at high tide and exposed at low tide. Healthy wetlands help trap sediments, store flood waters, and reduce wave energy during storms. In addition, two thirds of all marine species depend on tidal wetlands for a portion of their life cycle.
- **Freshwater Wetlands (FW)** are the transitional zone between the land and water. These are areas where the water table is at, or near the surface of the soil and there is no tidal influence. They are very diverse and may be dominated by trees like red maple, shrubs like swamp azalea, or cattail. These wetlands aid in groundwater recharge and store flood waters. They are also critical habitat to many rare plant and animal species.
- **Beaches and Dunes (BD)** are the transitional sandy shoreline area between the land and the Sound. These dynamic systems are in a constant state of erosion and deposition due to the movement of the tides, currents and winds. Dunes can protect adjacent low-lying properties from flooding. Many rare plants and animals occur on this habitat complex, such as prickly-pear cactus, golden-aster, beach heather, Piping Plover, and Horned Lark.
- **Coastal Grasslands (GL)** are open glacial outwash plains dominated by tall grasses like little bluestem and switchgrass. They often have diverse wildflower communities as well. These areas are critical habitat for many rare and endangered species like the grasshopper sparrow and regal fritillary butterfly. Grasslands are also important to birds of prey like the short-eared owl.
- **Intertidal Flats (IF)** are shallow areas of bays and harbors that lay between the spring high and low tide marks. These flats contain no rooted vegetation. The sediments may be muddy to sandy and support important species like juvenile flounder, clams, and crabs.
- **Cliffs and Bluffs (CB)** are steep coastal slopes of glacial sands and till created through long-term wave erosion and sea-level rise. Rare plant communities, such as New York's dwarf beech forest, may be found here.
- **Riverine Migratory Corridors (RMC)** are river systems that drain to the Sound. They are often bordered by floodplain trees and wetlands. Migratory species like Atlantic salmon, shad, and herring use these rivers to travel to fresh waters miles away from Long Island Sound to spawn. Recreational and commercial fisheries benefit when river corridors remain healthy and passable to migratory fish.
- **Coastal and Island Forests (F)** in the project area may be dominated by species such as maple, oak, cedar, pine, and beech. Very few, if any, virgin tracts of old growth forest remain. Animal which may use this habitat include owls, eagles, and osprey. Forest stands on islands are of particular importance to nesting colonial water birds like egrets and herons because they are relatively free of predators. Forests provide shade and oxygen, and help influence the local climate.
- **Rocky Intertidal Zones (RI)** are areas of exposed rock, either naturally eroded bedrock or man-made structures like jetties, characterized by attached species such as barnacles, algae, and mussels. These zones fall between extreme high and low tides, which results in frequent exposure of the plant and animal residents to the air. The species which attach themselves to this habitat help filter nutrients from the water, and are a food source for other marine species.
- **Shellfish Reefs (SR)** are formed by clusters of oysters and blue mussels in protected bays. The reef structure sits on top of soft bay sediments providing habitat and shelter for a variety of species. The shellfish are able to filter out much of the algae and particulate matter in the water column, improving water clarity.
- **Submerged Aquatic Vegetation (SAV)** beds are comprised of rooted plants like eelgrass and widgeon grass which grow on shallow bay bottoms below the spring low tide mark. These grassy beds provide vital refuge for juvenile fish and lobsters. The plants also trap sediments and use nitrogen from the water column, improving water quality.
- **Estuarine Embayments (EE)** are confined areas of the Sound with narrow inlets and significant freshwater inflow. They are generally more shallow than the open Sound and the restricted flow causes greater sedimentation. These areas are important nurseries for finfish and concentration sites for wildlife. The best bay scallop production occurs in estuarine embayments.

How Are Degraded Sites Identified?

Initially, degraded sites were identified through surveys mailed out to local governments, not-for-profit groups, and citizens' organizations. Additionally, the states of Connecticut and New York, and New York City independently identified known sites of concern through interviews with agency staff and local scientists, and aerial photo interpretation. There is a continuing need for information regarding new sites that may have been missed as well as sites already proposed for restoration. Please use the enclosed survey sheet to share any information you may have about new or existing restoration sites.

How Are Sites Prioritized?

The Initiative partners developed ranking criteria based on the potential ecological values of the degraded sites. Other important factors will also influence the order in which sites are restored. These include the availability of funding, presence of local partners, availability of basic knowledge about the site, and status of site planning and design. These ranking criteria will help the partners decide where to direct their efforts in the Sound as a whole over the coming years.

Ecological Criteria

1. Size of the site restored.
2. Benefits of the site to trust* species.
3. Potential to restore ecological functions.
4. Potential to restore a diversity of plant and animal species at a site.

* Trust species are those for which there is a legal mandate to protect or manage by the state or federal government. These include endangered and threatened species, migratory waterfowl, and managed fisheries, among others.

Logistical Considerations

1. Technical probability of success.
2. Community support.
3. Cost per acre of project.
4. Implementation readiness.
5. Extent of required maintenance.

Public/Economic Benefits

1. Access and open space.
2. Environmental equity.
3. Economic benefits.
4. Recreational opportunity.
5. Educational opportunity.
6. Associated surface and groundwater improvements.

How Will Projects Be Funded?

Project funding will come from a variety of sources. There are many existing federal, state, and private grant programs geared toward habitat restoration. Many grants target a particular habitat type like wetlands or trout streams. By matching each project with the grants it is eligible for, funding can be sought on a project-specific basis as each is ready for implementation. Some examples of funding sources include: New York's Clean Water/Clean Air Bond Act, Connecticut's Coves and Embayments Program, and several U.S. Fish and Wildlife Service grants. All of the projects will be voluntary and undertaken in cooperation with local governments and the community.

How Will Projects Be Implemented?

To date, 404 sites have been identified for restoration. Once the site information is received by Initiative staff, they are reviewed for eligibility and prioritized according to the previously described criteria. High priority sites are the focus of Initiative staff in pursuing funding, and development of site plans. Initiative staff also provide technical assistance to individuals and organizations who wish to pursue projects on other identified sites. In this way, all the identified sites are able to be restored as soon as possible, regardless of priority. After all, each one is important to the Sound as a whole.

Completed Tasks:

- Initial site identification and eligibility review
- Public review of the Initiative goals and prioritization criteria
- Site prioritization
- Compilation of a habitat restoration geographic information system and database
- Public outreach effort through public meetings and information sheets
- Identification of potential funding sources.

Ongoing Site-Specific Activities:

- Secure stakeholder and landowner support
- Identify appropriate funding sources and partnerships
- Develop individual project designs and perform restoration

What Commitments Have Been Made Through The Initiative?

- Complete research for The Long Island Sound Habitat Restoration Resource Guide
- Consider new sites as they are nominated
- Identify further research needs
- Maintain restored sites as necessary
- Review and revise strategy every 5 - 10 years
- Monitor progress of restored sites

What Can I Do To Help?

- Let us know what you think! Fill out the enclosed survey to comment on the Habitat Restoration Initiative.
- Sponsor or support local restoration projects.
- Volunteer for citizen monitoring efforts.
- Participate in beach grass and bluff planting projects.
- Sponsor or participate in clean-up projects on vacant lots, public beaches, and roadsides.
- Adopt Sound Gardening practices - contact New York Sea Grant for more information at (516) 727-3910 or Connecticut Sea Grant at (860) 405-9127.
- Support existing funding sources (CT LIS license plate fund, CT and NY duck stamps and wildlife tax form check-offs)
- Provide further site information
- Take photos of habitat restoration sites near you to document conditions over time.
- Talk to your neighbors about the importance of habitat restoration.

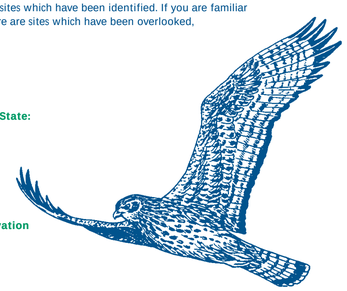
What Can You Tell Us?

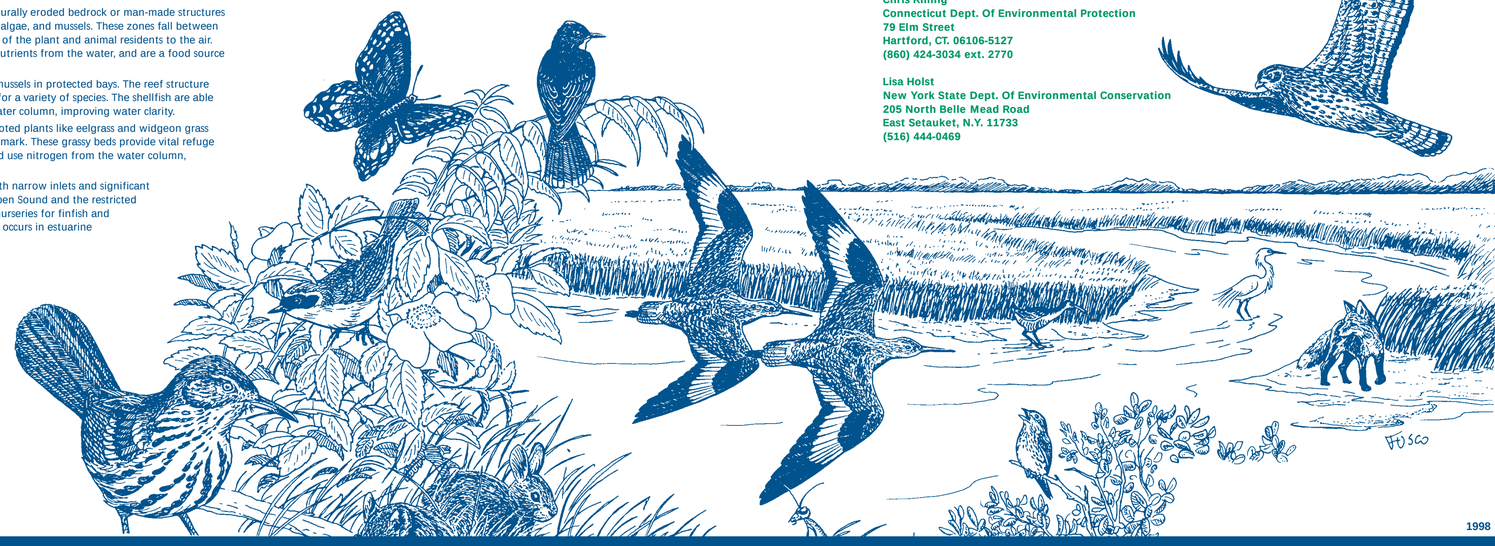
The working group still needs information about the sites which have been identified. If you are familiar with any of the sites listed on the reverse side, or there are sites which have been overlooked, please contact:

EPA Long Island Sound Office
Stamford Government Center
888 Washington Blvd., Stamford, CT 06904-2152
Or call (203) 977-1541

Or Contact The Restoration Coordinator In Your State:
Chris Rilling
Connecticut Dept. Of Environmental Protection
79 Elm Street
Hartford, CT. 06106-5127
(860) 424-3034 ext. 2770

Lisa Holst
New York State Dept. Of Environmental Conservation
205 North Belle Mead Road
East Setauket, N.Y. 11733
(516) 444-0469





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